Worksheet 3b

1) Based on the Pauli Exclusion Principle, how many electrons can you put into one orbital?

Two electrons

2) What does Hund's rule tell us about putting electrons into orbitals?

Place one electron in each degenerate orbital first before pairing them up.

3) Write the electron configuration for each of the following atoms:

$$N, V, Na^+, F^-, Se$$

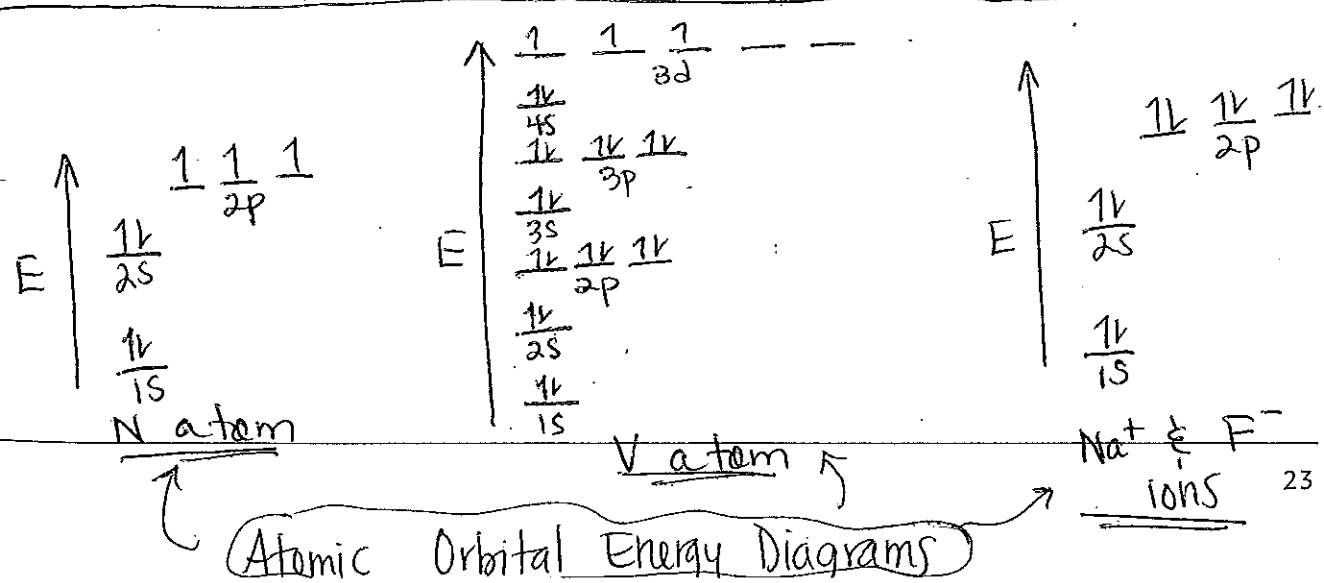
N: $1s^2 2s^2 2p^3$ or $[He]\,2s^2 2p^3$

V: $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^3$ or $[Ar]\,4s^2 3d^3$

Na^+: $1s^2 2s^2 2p^6$ or $[Ne]$

F^-: $1s^2 2s^2 2p^6$ or $[Ne]$

Se: $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^4$ or $[Ar]\,4s^2 3d^{10} 4p^4$



Atomic Orbital Energy Diagrams